Implementation of Linked list

```
struct node {
    int data;
    struct node *link;
};
struct node *root=NULL;
void add_at_end()
{
   struct node *temp;
   temp=(struct node*)malloc(sizeof(struct node));
   printf("enter node element \n");
   scanf("%d", &temp->data);
   temp->link = NULL;
   if(root == NULL)
       root=temp;
   else {
    struct node *p;
    p=root;
    while (p->link != NULL)
    {
      p = p->link;
    }
    p->link = temp;
  }
void add_at_begin()
{
   struct node *temp;
   temp=(struct node*)malloc (sizeof(struct node));
```

```
        printf("Enter node element \n");
        scanf("%d", &temp->data);
        temp->link = NULL
        if (root == NULL)
          root = temp;
        else {
          temp->link = root;
          root -> temp;
        }
      }
int length() {
      Struct node * temp;
      temp = root;
      int count=0;
      while (temp != NULL)
      {
        count++;
        temp = temp->link;
      }
      return count;
}
void add_after() {
      Struct node *temp, *p;
      int len, loc, i=1;
      Printf("Enter location \n");
       scanf("%d", &loc);
      len = length();
      if (loc > len)
{
```

```
        printf("Invalid location");
        printf("this linked list has %d nodes",
                                        len);
    }
    else {
        p=root;
        while(i<loc){
            p=p->link;
            i++;
        }
        temp=(struct node *)malloc(sizeof(struct node));
        temp->link = p->link;
        p->Link =temp;
    }
void delete(){
    int loc;
    struct node * temp;
    printf("Enter location\n");
    scanf("%d", &loc);
    if ( loc>length() )
        printf("No Such node");
    else if(loc==1)
    {
        temp=root;
        root = temp->link;
        temp->link=NULL;
        free(temp);
    }
    else
    {
```

```
Struct node *p = root, *q;
int i=1;
while (i<loc-1)
{
    p = p -> link;
    i++;
}
q = p -> link;
p -> link = NULL;
free(q);
}
}
void display(){
Struct node *temp;
temp = root;
if(temp == NULL)
  printf("No nodes in the list");
else
{
   while (temp != NULL)
   {
     Printf("%d \n", temp->data);
     temp = temp -> link;
   }
}
}
```